MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
POLTAVA STATE AGRARIAN UNIVERSITY

EDUCATIONAL AND PROFESSIONAL PROGRAMME

<u>Food Technology</u>

For the second (Master's) level of higher education
Master's academic degree
Program Subject Area **181 Food Technology**
Field of study **18 Production and Technology**
Qualification **Master of Food Technology**

APPROVED BY THE ACADEMIC COUNCIL
Head of the Academic Council
_____ / V. Aranchii / (protocol
No. 19 of April, 2021)
The educational programme is to be implemented
on 1 September, 2021
Rector_____ / V. Aranchii /
(Order No. 90 of 20 April, 2021.)

Poltava 2021

LETTER OF AGREEMENT
of the educational and professional programme

Vice-Principal for Research and Education   Olena Kostenko

Head of Training Division   Andrii Doroshenko

Dean of the Faculty   Anatolii Polishchuk

Head of the Programme   Valerii Sukmanov

APPROVED by
by the Academic Council of the Faculty of Technology of Production and
Processing of Livestock Products
Protocol No. 7 of April 12, 2021
Head of the Academic Council   Anatolii Polishchuk

FOREWORD

The programme is developed by a focus group consisting of:

1. Valerii Sukmanov, Doctor of Engineering Science, Professor

2. Halyna Dubova, PhD in Engineering Science, Associate Professor

3. Inna Tiurikova, Doctor of Engineering Science, Associate Professor

4. Kateryna Zozulya, a university student in the Bachelor's degree educational and professional programme Food Technology

Peer reviews from external stakeholders:

Nadiia Remizova,

Head of the Food Testing Research and Development Centre of Poltavstandartmetrology state-owned enterprise

Nataliia Katerynchuk,

Chief Specialist of the Food Safety Department of Derzhprodspozhyvsluzhba in Poltava region

Ruslan Kolomiiets

Director of POLTAVAKHLIB-3 Limited Liability Company

The Educational and Professional Programme is translated from Ukrainian into English by Yanina Tahiltseva, Ph.D. in Philology, Associate Professor of the Department of Humanities and Social Studies, Poltava State Agrarian University

_____ Yanina Tahiltseva

1. Profile of the educational and professional programme for the speciality

181 Food Technology

1 - General information	
Full name of higher education institution and structural devision	Poltava State Agrarian University, Faculty of Technology of Production and Processing of Livestock Products, Department of Food Technology.
Level of higher education	Second (Master's) level
Degree of higher education and title of qualification	Master's degree, Master of Food Technology
Official name of the educational and professional programme	Food Technology
Type of diploma and scope of the educational and professional programme	Master's diploma, single: 90 ECTS credits, training duration 1 year 4 months
Mode of study	Full-time, extramural
Accreditation	The programme is being introduced for the first time
Cycle / level	NRK of Ukraine - 8th level, FQ-EHEA - second cycle, EQF-LLL - 7th level
Prerequisites	Having a bachelor's degree
Language(s) of instruction	National, English
Duration of the educational and professional programme	5 years
Internet address of permanent placement of the educational and professional programme description	https://www.pdau.edu.ua/content/informaciya-pro-zmist-navchannya-zdobuvachiv-vyshchoyi-osvity-2021-roku-naboru
2 - The aim of the educational and professional programme	
The development of general and special competences necessary for solving complex problems of the food industry, which involves scientific research aimed at the production of environmentally friendly, safe, organic foodstuffs.	

3 - Characteristics of the educational and professional programme	
Subject area	Field of study - 18 Production and Technologies Programme Subject Area - 181 Food Technology **Objects of study:** technological processes and foodstuffs. **Learning goals:** to develop the ability to solve complex food technology problems and challenges, which involves research and/or innovation and is characterised by uncertain conditions and requirements. **The theoretical content of the subject area consists of** scientific concepts, categories, principles, methods, food technology. **Methods, techniques and technologies to be mastered by university students for practical application:** techniques for quality assurance and food safety, methods of planning and conducting experimental research and processing of results, food production technology, information and computer technology. **Tools and equipment:** specialised laboratory, technological equipment and tools (according to the requirements of the educational programme), computer hardware and software.
Orientation of the educational and professional programme	The educational and professional programme is oriented towards training a scientifically competent specialist in food technology who can implement the acquired general and professional learning competencies in production, scientific and social activities, guided by the requirements of modern times.
The main focus of the educational and professional programme	It is a complex of scientific research, organizational-technological, innovative and marketing methods, techniques and technologies aimed at the effective development of enterprises and institutions of the food industry. **Key words**: research, innovation, eco-products, regional raw materials, organic products, craft technology.
Peculiarities of the educational and professional programme	A combination of scientific research and production activities aimed at the production of foodstuff using regional raw materials that meet modern world requirements. The educational programme provides for the discipline to be taught in a foreign language.
4 - Employability and further study of graduates	
Employability	Scientific, educational, analytical, expert, advisory, managerial activities in the field of food technology.
Further study	Continuing education at the third (educational and scientific) level of higher education. Entry to further qualifications in adult education. Opportunity to study according to the programmes of 9th level of NRK of Ukraine, the third cycle of FQ-EHEA, 8th level of EQF- LLL
5 - Teaching and assessment	
Teaching and learning	Student-centred, problem-based learning, initiative self-study. Problem, interactive, project-based, information-computer-based, self-development, collaborative and integrative, contextual training technologies, e-learning, research-based learning. Teaching is in the form of lectures, seminars, practical classes, laboratory work, self-study, individual studies, etc.
Assessment	Assessment of the quality of mastering the educational and professional programme includes formative and summative

	assessment of knowledge (semester control and certification of university students). Formative assessment - at seminars, practical classes, laboratory classes (recitation or written questioning, express control, student answers during the discussion of issues, control works, test control, laboratory work reports, presentations, etc.). Summative assessment - examination or pass-fail assessment (graded test). Final attestation - defence of a qualifying paper.
6 - Programme competences	
Integral competence	The ability to solve the problems of research and/or innovation nature in food technology
General competences (GC)	GC 1. Ability to search for, process and analyse information from a variety of sources. GC 2. Ability to do research at an appropriate level. GC 3. Ability to generate new ideas (creativity). GC 4. Ability to act in a socially responsible and conscientious manner. GC 5. Ability to work in an international context.
Special (professional, subject) competences of the speciality (SC)	SC 1. Ability to select and apply specialized laboratory and technological equipment and instruments, scientifically grounded methods and software for research in the field of food technology. SC 2: Ability to plan and carry out research, taking into account global trends in the scientific and technological development of the industry. SC 3: Ability to protect intellectual property in the area of food technology. SC 4. Ability to develop programmes for the efficient operation of food factories and/or restaurant businesses in line with industry forecasts under conditions of globalisation. SC 5. Ability to present and discuss the results of research and projects. SC 6. Ability to ensure food quality and safety when introducing technological innovations in the industry. SC 7. Ability to develop and implement food technologies of organic and eco-products using regional raw materials. SC 8. Ability to scientifically justify, develop new food technologies and improve existing ones that meet current European consumer requirements.
7- Programme learning outcomes	
	LO 1. To identify and analyse scientific and technical information from a variety of sources to solve professional and scientific problems in the area of food technology. LO 2. To make effective decisions, evaluate and compare alternatives in food technology, including uncertain and risky situations and interdisciplinary contexts. LO 3. To apply specialised equipment, modern methods and tools, including mathematical and computer modelling to solve complex problems in food technology. LO 4. To apply statistical methods of experimental data processing in the field of food technology, use specialized software for processing experimental data.

	LO 5. To select and introduce effective technologies, equipment and rational methods of production management into production activity, taking into account global trends in the development of food technology.
	LO 6. To develop and implement short- and long-term development programmes for the industry, analyse and evaluate their effectiveness, environmental and social impacts.
	LO 7. To have specialized conceptual knowledge incorporating current scientific advances in food technology, communicate knowledge, conclusions and arguments clearly and unambiguously to specialists and non-specialists.
	LO 8. To protect intellectual property in the field of food technology, to carry out relevant patent research, to prepare documents for patents for inventions and utility models.
	LO 9. To be fluent in the national and foreign languages to discuss professional activities, research results and innovations in the field of food technology.
	LO 10. To plan and carry out research in the field of food technology, to analyse its results, to argue the conclusions.
	LO 11. To assess and manage risks and uncertainties when making technological and organisational decisions in a production environment to ensure food quality and safety.
	LO 12. To scientifically justify and develop technologies of organic, environmentally friendly products using regional raw materials.
	LO 13. To develop new technologies of food products and improve the existing ones that meet the current requirements of European consumers.

8 - Resources for the implementation of the educational and professional programme

Staffing	Head of the educational and vocational programme: Doctor of Engineering l Science, Professor. Authors of the programme: 1 Doctor of Engineering Science, Professor, 3 PhDs in Engineering Science, Associate Professors, 1 PhD in Agricultural Science, Associate Professor. Academic staff with scientific degrees and / or academic titles, as well as highly qualified specialists, are involved in the implementation of the programme. To improve the professional level, all academic staff periodically attend advanced training courses, in particular, do internships, including abroad.
Material and technical support	The material and technical support corresponds to the licensing requirements for the provision of educational services in the field of higher education and is sufficient to ensure the quality of the educational process, in particular: classrooms; learning laboratories; research laboratories; IT rooms; gym, sports grounds; library, reading room; wireless access points; multimedia equipment; rooms for academic staff; dormitories; food services areas; etc.

Information and teaching support	The information and teaching support meets the licensing requirements, has up-to-date content, is based on modern information and communication technologies and includes: library, reading room with a sufficient collection of educational, scientific literature and professional periodicals; electronic library of Poltava State Agrarian Academy: http://lib.pdaa.edu.ua/ official website: https://www.pdaa.edu.ua/; virtual educational environment Moodle; unlimited Internet access, wireless access points; corporate e-mail; curricula and working plans; academic schedules; teaching materials for academic courses; syllabuses, working programmes of academic courses; practical training programmes; electronic resource, which contains teaching materials for academic disciplines; course paper preparation manual; tools for diagnostics of the quality of higher education; repository of Poltava State Agrarian Academy; etc.
9 - Academic mobility	
National credit mobility	Based on bilateral agreements between Poltava State Agrarian University and Ukrainian Universities
International credit mobility	Ensured in accordance with signed international agreements and memoranda
Training of foreign university students	Possible on standard terms.

2. List of the educational and professional programme components and their logical sequence

2.1. List of EPP components

90 credits

Code of academic course (Learning component (LC)	Components of the educational and professional programme (academic courses, course projects (papers), practical training)	Number of credits	Form of summative assessment
Compulsory components of EPP			
LC 1	Innovative Food Processing Technologies	5,0	examination
LC 2	Foreign Language for Specific Purposes	3,0	credit
LC 3	Craft Technologies	4,0	examination
LC 4	Course Paper "Innovative food processing technologies"	3,0	defence
LC 5	Methodology and Organisation of Research	3,0	examination
LC 6	International and National Food Quality Assurance Systems	4,5	examination
LC 7	International and National Intellectual Property Protection Systems	3,0	credit
LC 8	Modelling and Optimisation of Food systems and Technologies	3,5	examination
LC 9	Planning of Experiments and Analysis of Results	3,0	credit
LC 10	Modern Research Methods for Raw Materials and Foodstuffs	4,0	credit
LC 11	Organic Food Technologies	4,5	examination
LC 12	Development Management of Food Factories	3,0	examination
LC 13	Scientific research practical training	4,5	credit
LC 14	Pre-graduation practical training	4,5	credit
LC 15	Qualifying paper preparation	12,0	
LC 16	Qualifying paper defence	1,5	
	Total of compulsory components	**66**	73,3%
	Total of elective components	**24**	26,7%
TOTAL OF THE EDUCATIONAL AND PROFESSIONAL PROGRAMME		**90**	

3. Form of university student certification

Forms of university student certification	Certification is conducted in the form of a public defence of a qualifying paper. The certification is carried out by an Examination Committee, which includes leading (qualified) lecturers from other higher education institutions and representatives of employers.
Qualifying paper requirements	The qualifying paper has to be focused on the solution of a complex food technology problem, which involves research and/or innovation and is characterised by the uncertainty of conditions and requirements. The qualifying paper doesn't have to contain academic plagiarism, fabrication, falsification. The qualifying paper has to be released to the public on the official website of the higher education institution or its subdivision, or in the repository of the higher education institution.
Public defence requirements	The qualifying paper is defended in front of an Examination Committee, which may include representatives of employers and their associations. The defence is conducted orally and in public.
The documents a graduate receives on successful completion of the certification	Document of a standard form certifying obtaining Master's academic degree, qulification Master of Food Technology

2.2. Flow chart of the educational process

Code of EPP pre-study components

Semester	Code of a/c	1 semester							2 semester					3 semester			
		LC 1	LC 2	LC 5	LC 7	LC 9	LC 10	LC 11	LC 3	LC 4	LC 8	LC 13	LC 15	LC 6	LC 14	LC 15	LC 16
1 semester	LC 1	▓															
	LC 2		▓														
	LC 5		•	▓													
	LC 7	•	•	•	▓												
	LC 9		•	•		▓											
	LC 10		•	•		•	▓										
	LC 11	•	•	•		•	•	▓									
2 semester	LC 3	•	•	•		•	•	•	▓								
	LC 4	•	•	•	•	•	•	•	•	▓							
	LC 8	•	•	•	•	•	•				▓						
	LC 13	•	•	•	•	•	•				•	▓					
	LC 15	•	•	•	•	•	•	•	•	•	•	•	▓				
3 semester	LC 6	•	•			•	•	•	•			•		▓			
	LC 14	•	•	•	•	•	•	•	•	•	•	•	•	•	▓		
	LC 15	•	•	•	•	•	•	•	•	•	•	•	•	•	•	▓	
	LC 16		•	•								•			•	•	▓

4. Matrix of correspondence of programme competences to the educational and professional programme components

	LC 2	LC 3	LC 4	LC 5	LC 6	LC 7	LC 8	LC 9	LC10	LC11	LC12	LC13	LC14	LC15	LC16
GC 1			•		•	•	•	•	•			•	•	•	
GC 2				•		•	•	•	•			•	•	•	
GC 3	•		•	•	•		•	•	•			•	•	•	
GC 4						•				•	•	•	•	•	•
GC 5		•				•	•				•			•	
SC 1					•		•	•	•			•		•	
SC 2	•			•	•		•	•	•	•		•		•	
SC 3						•						•	•	•	•
SC 4					•						•				
SC 5												•			•
SC 6	•		•	•		•				•				•	
SC 7	•		•							•			•	•	
SC 8	•		•	•						•			•	•	

5. Matrix for ensuring programme learning outcomes (PLO) with the relevant components of the educational and professional programme

	LC 1	LC 2	LC 3	LC 4	LC 5	LC 6	LC 7	LC 8	LC 9	LC10	LC11	LC12	LC13	LC14	LC15	LC16
PLO 1					•	•	•	•	•				•	•	•	
PLO 2	•			•		•	•	•					•		•	
PLO 3				•		•	•	•	•				•	•	•	
PLO 4					•		•	•					•		•	
PLO 5			•		•							•		•		
PLO 6										•	•					
PLO 7	•	•		•	•									•	•	•
PLO 8		•				•							•		•	
PLO 9		•													•	•
PLO 10					•			•	•	•			•		•	
PLO 11	•			•		•								•	•	
PLO 12	•			•								•		•	•	
PLO 13	•		•	•								•		•	•	